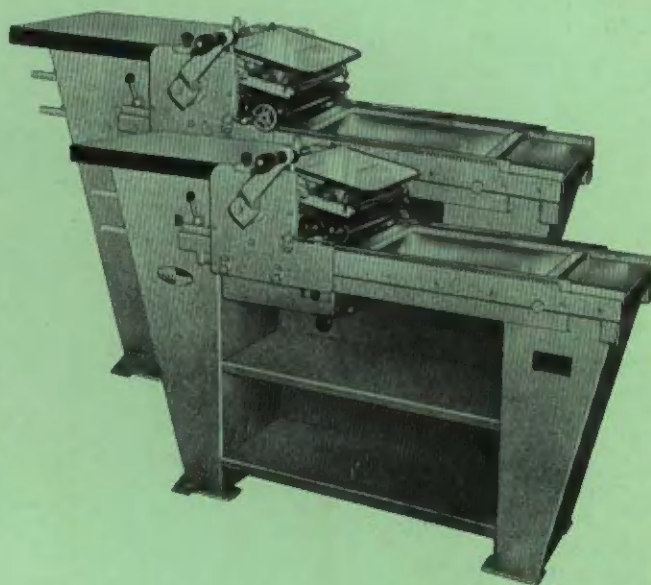


15 MP  
5491

# **Instruction and Parts Manual F-38**

MODELS 15MA and 15MP

## **CHALLENGE REPRODUCTION PROOF PRESS**



**ALWAYS GIVE THE SERIAL NUMBER  
OF PRESS WHEN WRITING**

Manufactured by  
**The Challenge Machinery Company**  
Grand Haven, Michigan

## **GUARANTEE**

(Read Carefully)

This equipment is guaranteed to be free of defects in workmanship or material for a period of one year from date of sale. We will repair or replace, at our option, any equipment proving defective, if returned to our factory, transportation charges prepaid. Should you find anything wrong, DO NOT Have Any Repairs Made Without First Writing or Wiring Us, as WE WILL NOT BE RESPONSIBLE FOR ANY REPAIRS MADE WITHOUT OUR WRITTEN AUTHORITY.

**THE CHALLENGE MACHINERY CO.**

PRINTED  
IN  
U.S.A.

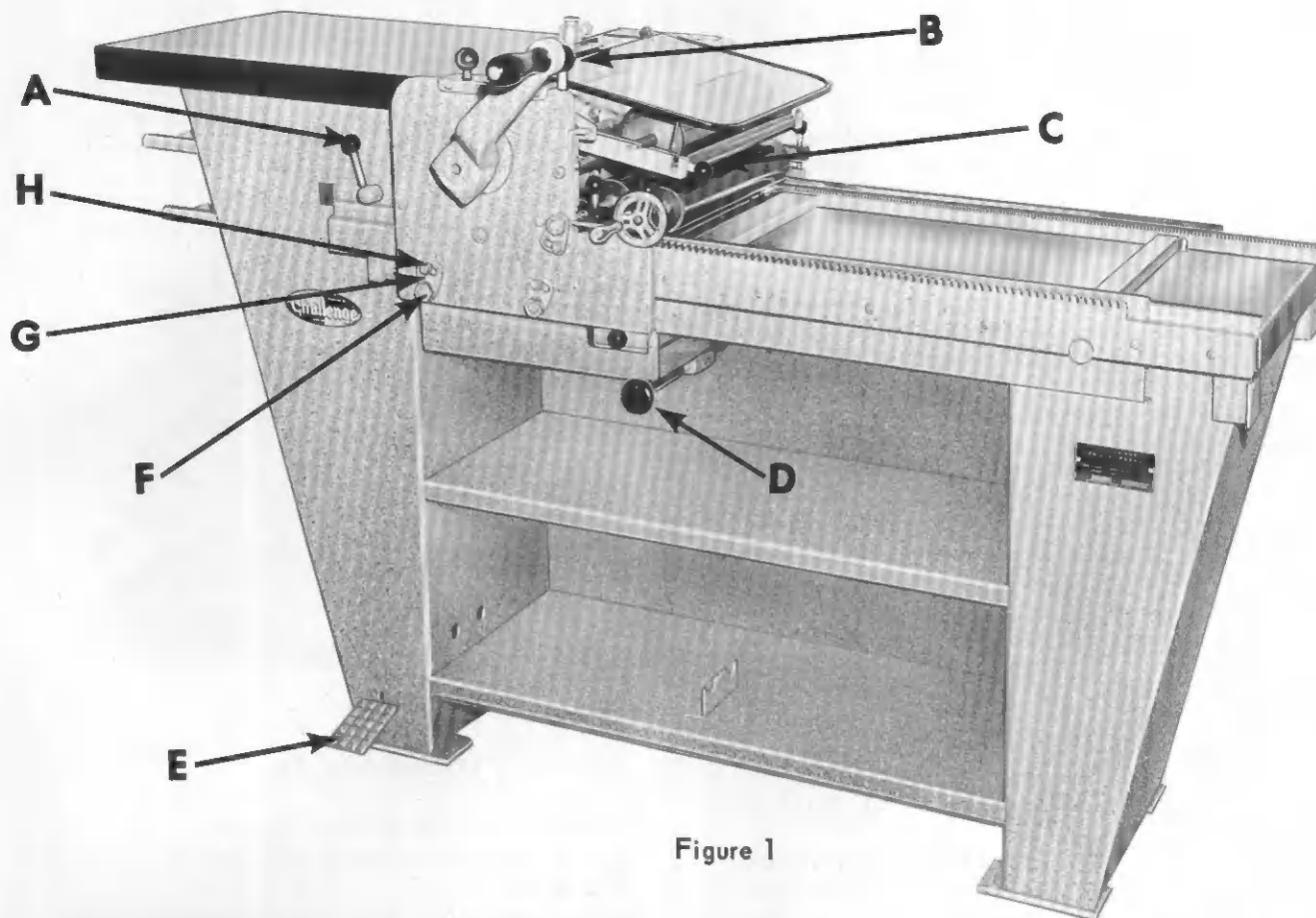


Figure 1

## Directions for Installing and Adjusting

### INSTALLATION

Press is shipped fully assembled with the exception of the composition rollers, side guide and cylinder crank. Remove crating material but leave press on skid until it has been moved to its approximate location. Thoroughly clean all machine surfaces and oil bearings.

Remove skid and set press on synthetic rubber pads furnished — one under each leg of press. Place a precision level on the bed and level the press with metal or cardboard shims under the rubber pads where necessary.

NOTE — Unless otherwise specified the machine is shipped with type-high (.918") bed. Galley or galley plate cannot be used when proofing type-high forms.

### CONTROLS

#### CYLINDER IMPRESSION TRIP (A)

Cylinder is off impression when the trip lever "A" is in the "Trip" position shown in the illustration. Moving

the lever forward to "Print" or on impression position will cause the cylinder to print as it travels over the bed. The cylinder is automatically tripped off impression on its return to the feed board.

#### INKING ROLLER TRIP LEVER (B)

Lever "B" lifts the form rollers along with the steel vibrator and rider roller from contact with the inking drum.

#### VIBRATOR TRIP LEVER (C)

Lever "C" lifts the steel vibrator and rider roller from contact with the form rollers.

#### AUTOMATIC WASHUP HANDLE (D)

Rotating handle "D" in clockwise direction brings washup doctor blade into contact with the motor driven ink drum. Doctor blade should be brought into contact with drum, only when cylinder is at feed board.

#### GRIPPERS (E)

Press is equipped with automatic and foot operated "E" grippers. Grippers open automatically to release the sheet after printing.

## CYLINDER PACKING

The cylinder is ground for .040" packing. The cylinder packing, plus the stock to be printed on, should be approximately .003" over the cylinder bearers.

To change packing, move cylinder to center of bed, with lever "A" in "Trip" position, so that reel rod is in up position. Unlatch reel rod with  $\frac{3}{4}$  open wrench provided and loosen drawsheet from reel rod. With left hand, grasp packing and, as cylinder is returned to feed board, lay packing on feed board.

To change the drawsheet, loosen the filister head screws in the gripper bar. Unless overlays are used, only the drawsheet is held by this bar.

When moving cylinder to center of bed to secure packing, hold packing in position by smoothing out with left hand. Secure drawsheet to reel rod. Be sure packing is tight to cylinder at both sides of gripper edge. There is sufficient side play in the reel rod to correct a small amount of unevenness in packing.

Rubber blanket is optional equipment - furnished on special order only.

### ADJUSTING IMPRESSION CYLINDER

To adjust impression cylinder loosen bolts (H) and nuts (F) on all six eccentric levers (G). Three on each side of press.

Adjust upper eccentric levers to raise or lower the cylinder. Tighten bolt and nut, then adjust lower eccentric levers to contact bottom of rails.

NOTE - When adjusting the impression cylinder be sure that bed is in center position of press.

## ADJUSTING FORM ROLLERS

The composition form rollers are carefully adjusted when the press is shipped from the factory but they should be checked when machine is installed as follows:

Adjust form rollers to type-high gage placed on bed of press.

Form rollers are adjusted by turning the black adjusting knobs "J" in Fig. 2 to the right to raise the rollers and to the left to lower them. The adjusting knobs can be made to turn tighter or looser by means of the clamping screw "K" in Fig. 2 on the side of the form roller bearing assembly. A wrench is supplied for adjusting these screws.

Rollers are set correctly when they show not more than 1/8-inch contact against the vibrator roller and type high gage.

When press is not being used, rollers should be separated by lifting and locking vibrator lever "C" in Fig. 2 and then raising form rollers with lever "B" Fig. 2.

To release locked vibrator roller hold vibrator lever "C" and push down on locking lever "L" Fig. 2.

### CHANGING FORM ROLLERS

Form rollers can be changed in a few seconds by grasping black adjusting knobs "J" Fig. 2 and merely lifting out each roller assembly and adjusting mechanism.

For color proofs, it is an excellent idea to have at least one extra set of rollers equipped with adjusting mechanism and driving gear.

NOTE - Recommended that kerosene or a commercial type of roller wash be used in cleaning rollers.

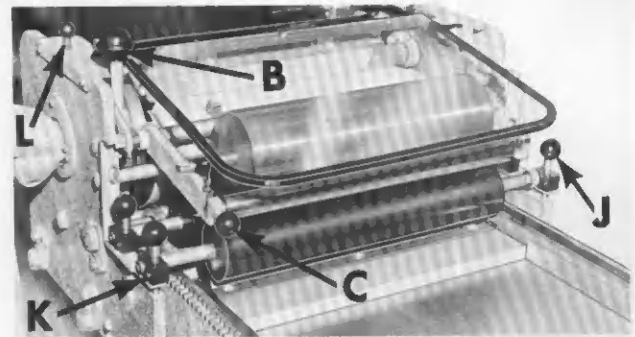


Figure 2

## LUBRICATION

### ALL OIL HOLES AND MOVING PARTS

At least once a week. Use S.A.E. #20 oil.

### VIBRATOR WORM

Keep covered with a petroleum jelly product, such as vaseline.

### VIBRATOR SHAFT

At least once a week. Use S.A.E. #20 oil.

### BED AND CYLINDER BEARERS

Wipe bed and bearers with slightly oiled cloth daily.

### CYLINDER GUIDE PLATES

At least once a week. Use S.A.E. #20 oil.

### UNDER RAILS

Under rails should be wiped clean and well oiled daily.

### TYMPAN CLAMP - GRIPPER BAR

Leave grippers open when press is idle, to allow oil to cover shanks thoroughly. Use Standard Oil Company's Finoil or equivalent.

### RAILS - GEARS AND GEAR RACK

A light film of oil should be kept on rails, gears and gear racks at all times.

### BALL BEARINGS

All ball bearings are packed in grease and require no further attention.

### REPRODUCTION PROOFING

Requires a good firm packing, an ink that is suitable for the paper and form and clean rollers. Material to be proofed is very seldom perfect and a certain amount of makeready is always required to obtain the best results.

Your ink and paper supplier should be contacted in regard to the best ink or paper to use when a problem of this type arises.

## NOTES

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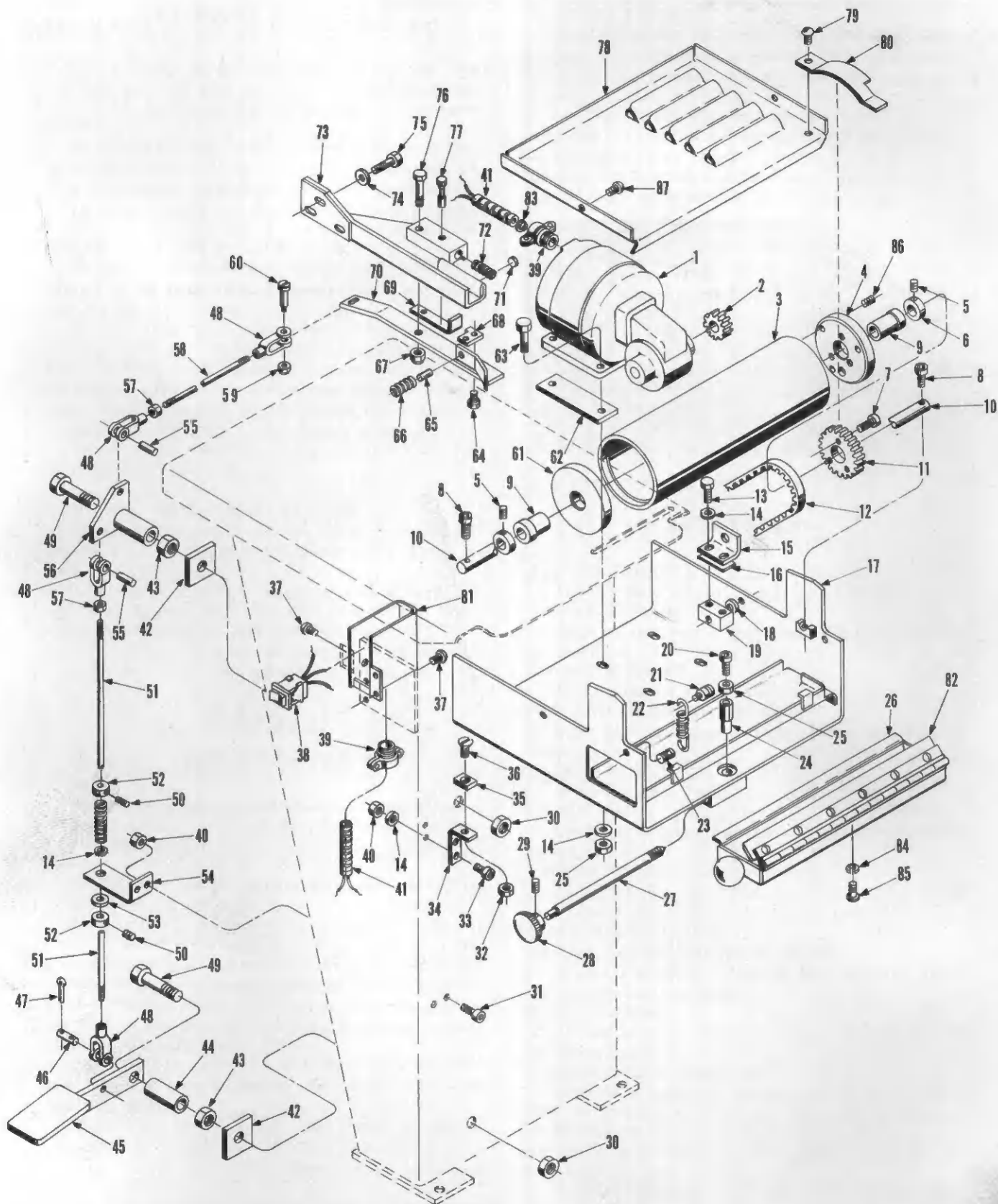


Figure 3



# Always Give SERIAL NUMBER When Writing ===== When Ordering Parts Give PART NUMBER

Ref. No.	Part Number	PART NAME	QUAN		Ref. No.	Part Number	PART NAME	QUAN.	
			MA	MP				MA	MP
1	E-1046	Gear Reduction Motor		1	46	2330	Pin - Gripper Linkage	1	1
2	S-1644	Pulley (Driver)		1	47	306-6631	3/32 x 3/4 Cotter Pin	2	2
3	2580	Shell (Ink Roller)		1	48	S-1625	Yoke	4	4
4	2582	Inker Hub (Pulley End)		1	49	1032-6913	5/8 - 11 x 4 Hex. Hd. Cap Screw	2	2
5	403-6938	1/4 - 20 x 3/16 Set Screw		2	50	504-6938	5/16 - 18 x 1/4 Soc. Set Screw - Cup Pt.	2	2
6	2584	Collar		2	51	2327	Rod - Long Gripper Linkage	1	1
7	406-6918	1/4 - 20 x 3/4 Soc. Hd. Cap Screw		3	52	2328	Collar - Gripper Linkage	2	2
8	103207-6915	#10 - 32 x 7/8 Soc. Hd. Cap Screw		2	53	2329	Bumper - Gripper Linkage	1	1
9	S-1643	Bearing		2	54	2323	Support Bracket	1	1
10	2583	Shaft - Ink Roller		1	55	21S-312-0875	5/16 x 7/8 Sel-Lok Pin	2	2
11	2585	Pulley (Driven)		1	56	A-2324	Bell Crank Assy. Std.	1	1
12	S-1645	Timing Belt		1	57	5-6428	5/16 - 24 Std. Hex Jam Nut	2	2
13	406-6915	1/4 - 28 x 3/4 Hex. Hd. Cap Screw		4	58	2331	Rod - Short Gripper Linkage	1	1
14	5-7321	Std Washer - 5/16	10	10	59	4-6428	1/4 - 28 Hex Jam Nut	1	1
15	2589	Bracket (Inker)		2	60	2347	Shoulder Screw	1	1
16	2601	Shim (Inker Pin)		U.A.R.	61	2581	Inker Hub - Plain		1
17	A-2572-1	Inker Base - Welded Assm.		1	62	S-1646	Motor Mount Pad		2
18	2590	Spacer (Inker Pivot)		2	63	408-6913	1/4 - 20 x 1 Hex. Hd. Cap Screw		4
19	A-2587	Pivot Block Assy.		2	64	103203-6915	#10 - 32 x 3/8 Soc. Hd. Cap Screw	2	2
21	2597	Screw (Spring Retainer)		2	65	S-463	Straight Pin .187 x .50		1
22	2596	Extension Spring		2	66	2339	Spring - Gripper Release	1	1
23	2586	Screw (Spring Retainer)		2	67	6-5247	3/8 - 16 Lock Nut	1	1
25	4-6423	1/4 - 20 Hex Nut		4	68	2346	Stop Latch	1	1
26	A-2591-1	Washup Tray Assy.		1	69	2342	Latch - Gripper Release	1	1
28	S-1642	Knob - Knurled		1	70	A-2343	Gripper Release Lever Assy.	1	1
29	103204-6939	#10 - 32 x 1/4 Soc. Set Screw - Cup Pt.		2	71	2338	Bumper - Gripper Release	1	1
30	10-6424	5/8 - 11 Jam Nut	2	2	72	2341	Spring - Latch	1	1
31	406-6910	1/4 - 20 x 3/4 Cap Screw	2	2	73	A-2333	Gripper - Release Bracket Assy.	1	1
32	1024-6423	10 - 24 Std. Hex Nut		1	74	4-7321	Std. Washer - 1/4"	3	3
33	406-6910	1/4 - 20 x 3/4 Cap Screw		2	75	406-6905	1/4-28x3/4 Hex. 1/4" Cap Screw Gr. 5	3	3
34	2599	Bracket (Inker Bumper)		1	76	614-6904	3/8-16x1 3/4 Hex. Hd. Cap Screw Gr. 5	1	1
35	2598	Bumper (Inker Frame)		1	77	2340	Latch Lock Pin	1	1
36	102408-6922	#10 - 24 x 1/2 Flat Hd. Mach Screw		1	78	2422	Cover - MA	1	
37	S-659	#10 - 24 x 3/8 Rd. Hd. Mach Screw		3	78	2423	Cover - Inker MP		1
38	E-1045	Switch		1	79	S-1088	#10 - 24 x 3/8 Self Tapping Screw		1
39	K-87-1	Wire Connector		2	80	2600	Belt Guard		1
40	4-5247	1/4 - 20 Lock Nut		2	81	A-2603	Electrical Box Assy.		1
41	EE-1047	Conduit Assy.		1	82	2595	Blade		1
42	2318	Spacer	2	2	83	S-1122-1	Anti-Short Bushing		2
43	10-6423	5/8 - 11 Std Hex Nut	2	2	86	102406-6938	#10-24x3/8 Soc. Set Scr - Cup Pt.		3
44	2319	Spacer Collar	1	1	87	S-1674	1/4 - 28 x 1/4 Rd. Hd. Mach Scr Spec.	4	2
45	A-2320	Foot Pedal Assy.	1	1					

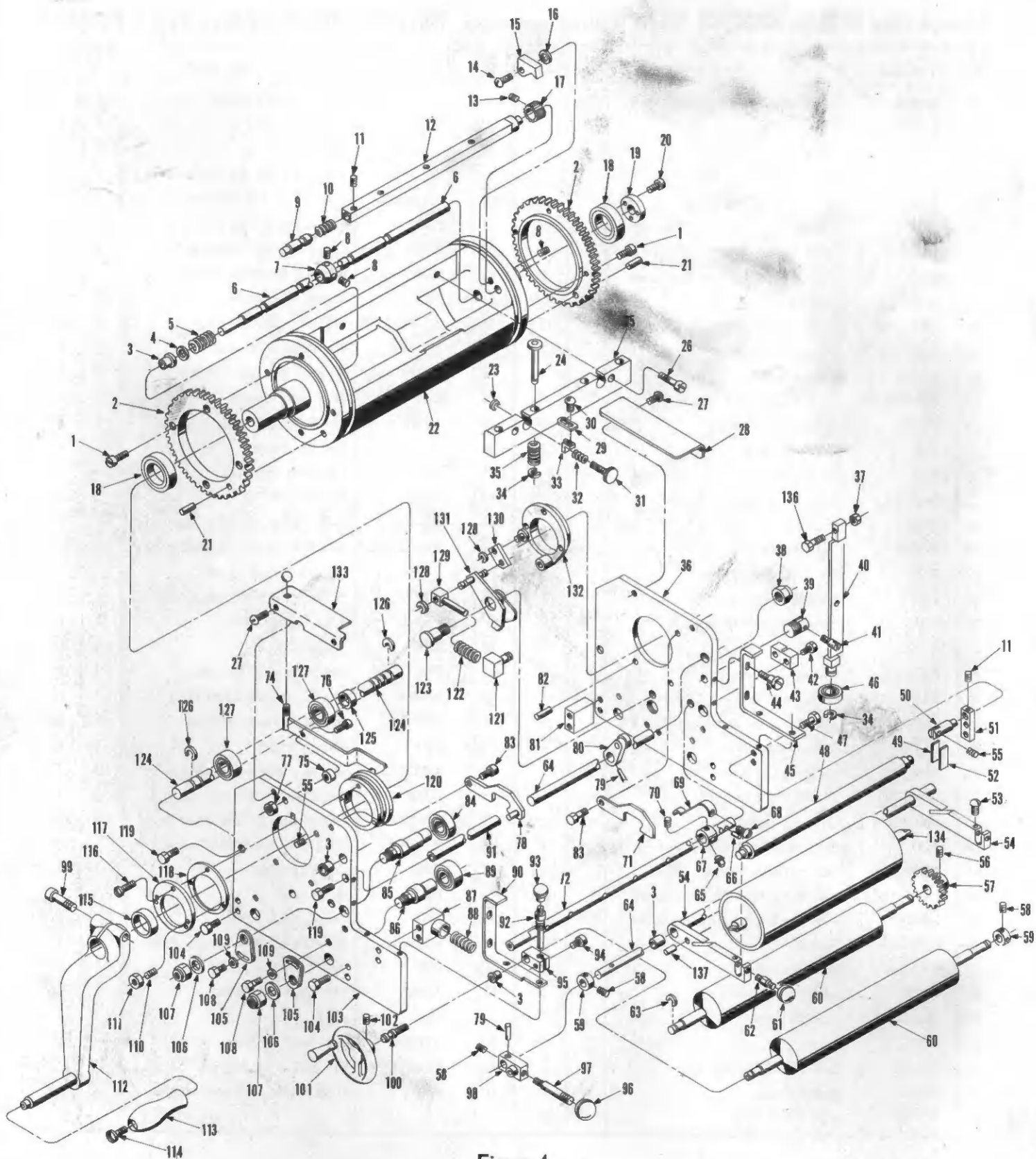


Figure 4



# Always Give SERIAL NUMBER When Writing            When Ordering Parts Give PART NUMBER

Ref. No.	Part Number	PART NAME	Quan.	Ref. No.	Part Number	PART NAME	Quan.
1	412-6921	1/4 - 20 x 3/4 Fil. Hd. Mach Screw	8		A-2556	Sheet Wheel Assy. L.H.	1
2	2465	Ring Gear (Cylinder)	2	69	2488	Sheet Finger	2
3	S-1624	Nyliner	7	70	403-6956	1/4 - 28 x 3/8 Soc. Set Screw - Dog. Pt.	2
4	8-7322	1/2 Polished Washer	1	71	A-2454	Lift arm Assy. (Rear)	1
5	2463	Spring	1	72	2486	Tie Bar	1
6	2461	Shaft	1	73	2629	Knob	1
7	2462	Cam (Gripper)	4	74	A-2634	Lever Asm. - Brkt. Release	1
8	505-6938	5/16 Soc. Set Scr. Cup Point	9	75	2457	Spacer Catch	1
9	2479	Pivot (Reel Bar)	1	76	410-6915	1/4 - 28 x 1 1/4 Soc. Hd. Cap Screw	1
10	2341	Spring	1	77	4-4628	1/4 - 28 Jam Nut	1
11	102403-6938	#10 - 24 x 3/16 Soc. Set Screw - Cup Pt.	1	78	A-2443	Lift Arm Assy. (Front)	1
12	2477	Reel Bar	1	79	208-6633	Taper Pin #2 x 1	2
13	404-6938	1/4 - 20 x 1/4 Soc. Set Screw - Cup Pt.	1	80	A-2498	Cam Assy.	1
14	S-1641	5/16 - 18 x 1 Rd. Hd Mach Screw - Plated	1	81	2530	Stop Block	2
15	2480	Pawl (Racket)	1	82	510-5246	Dowel 5/16 x 1 1/4	4
16	5-7321	5/16 Washer	1	83	404-6915	1/4 - 28 x 1/2 Cap Screw - Soc. Hd.	2
17	2478	Racket	1	84	S-1636	Bearing - Single Row Ball	2
18	S-1637	Bearing - Single Row Ball	2	85	2508	Stud (Upper Eccentric)	2
19	2464	Release Bearing	1	86	2525	Stud (Lower Eccentric)	2
20	102408-6921	#10 - 24 x 3/4 Fil. Hd.	3	87	A-2527	Spring Retainer	2
21	408-5246	1/4 x 1 Dowel Pin	2	88	2385	Spring	2
22	2460	Cylinder (Impression)	1	89	S-1638	Bearing (Lower)	4
23	S-1193-18	3/16 Truarc 'E' Ret. Ring .040	2	90	2516	Bracket (Front)	1
24	2468-1	Gripper	4	91	2484	Tie Bar	1
25	A-2466	Gripper Bar Assy.	1	92	2532	Stud	4
26	508-6911	5/16-18x1 Fil. Hd. Screw	2	93	15G-D850	Handle	4
27	S-1652	#10 - 32 x 1/2 Rd. Hd. Mach. Screw - Plated	4	94	83206-6918	#8 - 32 x 3/4 Soc. Hd. Cap Screw	4
28	2458	Rear Cover	1	95	2533	Block (Form Roller)	4
29	2474	Paper Guide	2	96	S-1634	Knob	1
30	S-1629	#8 - 32 x 3/16 Rd. Hd. Mach Screw - Plated	2	97	2503	Stud - Lever	1
31	2472	Adjusting Screw	2	98	A-2501	Lever - Form Roller	1
32	2475	Spring	2	99	618-6918	3/8 - 16 x 2 1/4 Soc. Hd. Cap Screw	1
33	2473	End Guide	2	100	2563	Stud (Hand wheel)	1
34	S-1193-50	1/2 Truarc 'E' Ret. Ring	5	101	2562	Hand Wheel	1
35	2471	Spring	4	102	405-6938	1/4 - 20 x 5/16 Soc. Set Screw - Cup Pt.	1
36	2448	Side Plate (Rear)	1	103	2428	Side Plate (Front)	1
37	4-6424	Hex Jam Nut 1/4 - 20	1	104	407-6904	1/4 - 20 x 7/8 Hex. Hd. Cap Screw - Grade 5	1
38	8-5240	1/2 - 13 Lock Nut	2	105	A-2509	Lever (Eccentric)	6
39	2521	Fulcrum (Gripper Release)	1	106	S-1673	Special Washer	6
40	A-2518	Gripper Release Assembly	1	107	10-6428	Jam Nut, Hex.	6
41	2522	Pivot Pin	1	108	507-6913	5/16 - 18 x 7/8 Hex. Hd. Cap Screw	6
42	408-6915	1/4 - 28 x 1 Soc Hd Cap Screw	2	109	5-7321	5/16 Std Washer	6
43	2523	Guide (Release)	1	110	103206-6939	#10 - 32 x 3/8 Soc. Set Scr. - Cup Pt.	4
44	2515	Shoulder screw	4	111	1032-6427	#10 - 32 Hex Nut	4
45	2517	Bracket (Rear)	1	112	A-2547	Crank Assy.	1
46	S-1635	Bearing - Single row ball	1	113	S-1633	Handle	1
47	508-6914	5/16 - 24 x 1 Cap screw	4	114	2550	Screw	1
48	A-2537	Distributor Assy.	1	115	2546	Spacer	1
49	2514	Wiper Spring	2	116	102408-6921	#10 - 24 x 1/2 Fill. Hd. Mach Screw	6
50	2512	Wiper Holder	2	117	2445	Retainer Plate	2
51	2511	Wiper Block	2	118	2446	Shim	U.A.R.
52	2513	Wiper	2	119	608-6914	3/8 - 24 x 1 Hex. Hd. Cap Screw	6
53	102406-6925	#10 - 24 x 3/8 Truss Hd. Mach Screw	2	120	A-2429	Cylinder Eccentric	1
54	A-2489	Vibrator Bracket	1	121	2442	Spring Retainer	2
55	404-6939	1/4 - 28 x 1/4 Soc. Set Scr. - Cup Pt.	4	122	2441	Spring	2
56	102404-6938	#10 - 24 x 1/4 Soc. Set Scr. Cup Pt.	2	123	2439	Shoulder Screw	2
57	2536	Gear (Ink Drive)	1	124	A-2481	Tie Bar Assy.	1
58	103204-6939	#10 - 32 x 1/4 Soc. Set Screw - Cup Pt.	9	125	2483	Roller Latch	1
59	2497	Collar	3	126	S-1623-75	Retaining Ring - 3/4 Interlock	6
60	A-2534	Form Roller (Cast)	2	127	S-1636	Bearing - Single Row Ball	2
	2534	Form Roller - Steel Core		128	S-1073-37	3/8 Retaining Ring - Series 5100	8
61	15G-D850	Handle (Trip lever)	1	129	2440	Spring Guide	2
62	2506	Stud	1	130	2438	Link - Trip	2
63	S-1517-5Q	1/2 (Truarc) Inverted Ret. Ring	4	131	A-2451	Rear Trip Assy. (Shown)	1
64	2496	Shaft (Vibrator)	1	132	A-2449	Cylinder Eccentric (Rear)	1
65	S-1640	Bullet Catch	2	133	2447	Front Cover	1
66	S-506	Straight Pin	1	134	A-2540	Vibrator Assy.	1
67	2487	Sleeve (Sheet Finger)	2	135	A-2431	Front Trip Assy. (Not Shown)	1
68	S-1629	#8 - 32 x 3/16 Mach screw - Plated	2	136	410-6908	1/4 - 28 x 1 1/4 Hex. Hd. Mach. Screw	1
	A-2555	Sheet Wheel Assy. R.H.	1	137	410-5246	1/4 Dia. x 1 1/4 Dowel	1

\* Used on MA only

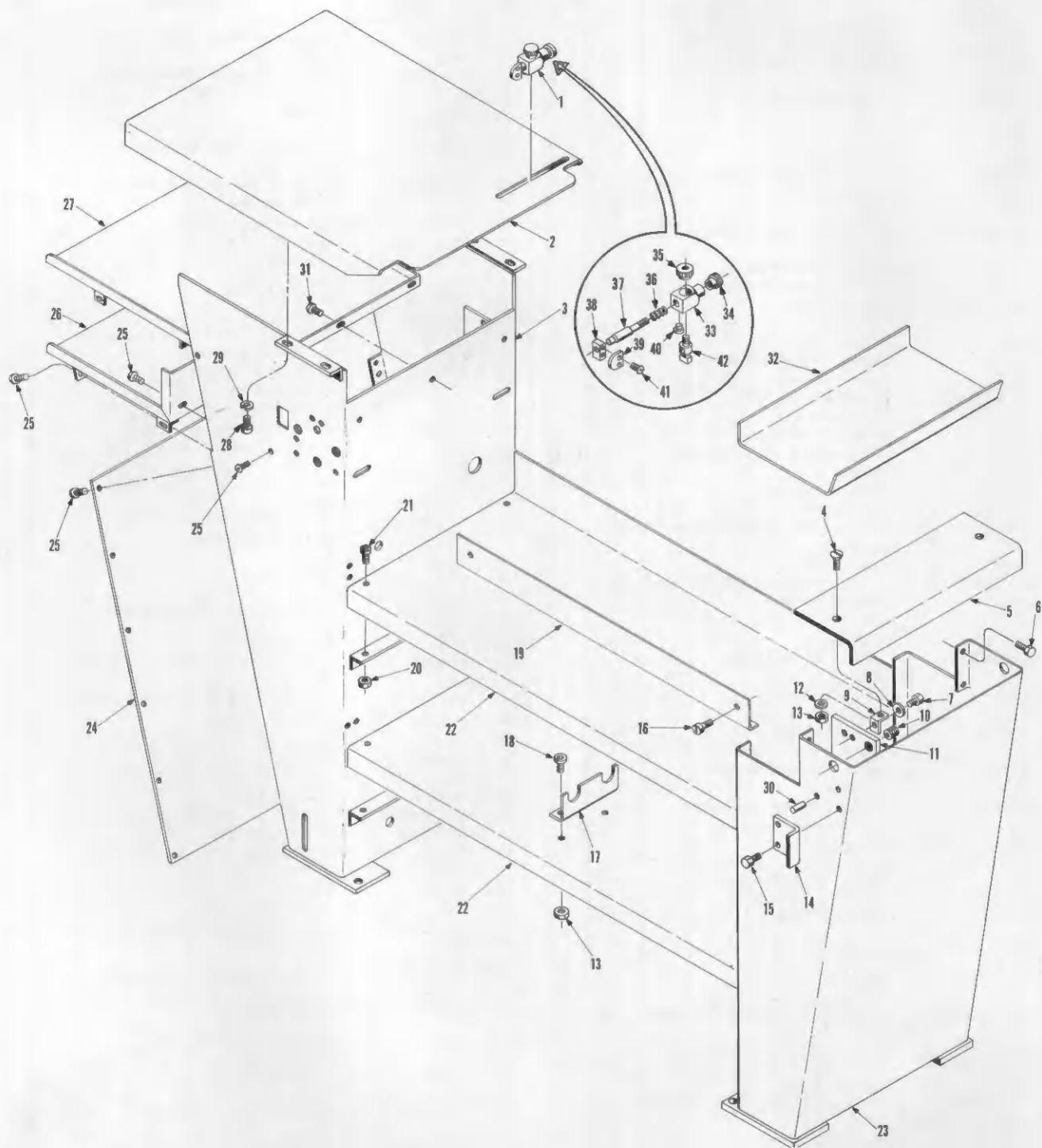


Figure 5

**Always Give SERIAL NUMBER When Writing \_\_\_\_\_ When Ordering Parts Give PART NUMBER**

Ref. No.	Part Number	PART NAME	Quan.	Ref. No.	Part Number	PART NAME	Quan.
1	A-2399	Side Guide Assy.	1	22	2310	Shelf	2
2	A-2396	Feed Board Assy.	1	23	A-2308	Right Side Frame Assy.	1
3	A-2301	Left Side Frame Assy.	1	24	2410	Cover - Left Side Frame	1
4	404-6922	1/4 - 20 Flat Hd. Mach. screw	2	25	S-659	#10 - 24 x 3/8 Mach. Screw	25
5	2351	5/16 - 18 Hex. Hd. Mach. Screw	1	26	A-2390	Stock Shelf (Lower)	1
6	504-6913	1/4 - 28 x 3/8 Soc. Hd. Cap Screw	4	27	A-2394	Stock Shelf (Upper)	1
7	403-6915	1/4 Washer	2	28	504-6918	5/16 - 18 x 1/2 Soc. Hd. Cap Screw	4
8	4-7321	1/4" Washer	4	29	5-7321	5/16 Std. Washer	5
9	2350	Bracket (Bed Extension)	2	30	404-5246	1/4 dia. x 1/2 Dowel Pin	2
10	2349	Jack screw	8	31	S-1628	#10-24 x 1/4 Mach. Screw - Plated	3
11	2317	Mounting Plate	2	32	2559	Tool Tray	1
12	4-7321	Std Washer 1/4	2	33	2400	Side Guide Block	1
13	4-6424	1/4 - 20 Hex. Jam Nut	4	34	2401	Side Guide Adj. Nut	1
14	2348	Stop Plate	2	35	2402	Side Guide Clamp Nut	1
15	406-6914	1/4 - 28 x 3/4 Hex. Hd. Cap Screw	4	36	2408	Side Guide Spring	1
16	102406-6925	#10 - 24 x 3/8 Truss Hd. Mach. Screw	2	37	2406	Side Guide Adj. Screw	1
17	2412	Bracket - Roller	1	38	2407	Block - Adj. Screw	1
18	403-6910	1/4 - 20 x 3/8 Button Hd. Soc. Cap Screw	2	39	2404	Hold Down - Side Guide	1
19	2411	Front Face Panel	1	40	2409	Guide Button	1
20	1024-6423	#10 - 24 Hex Nut	12	41	S-1498	#6 - 32 x 1/4 Rd. Hd Mach Screw - Plated	2
21	102403-6910	#10 - 24 x 3/8 Button Hd. Soc. Cap Screw	8	42	2402	Clamp Nut - Side Guide	1
					2413	Back Panel	1

## NOTES

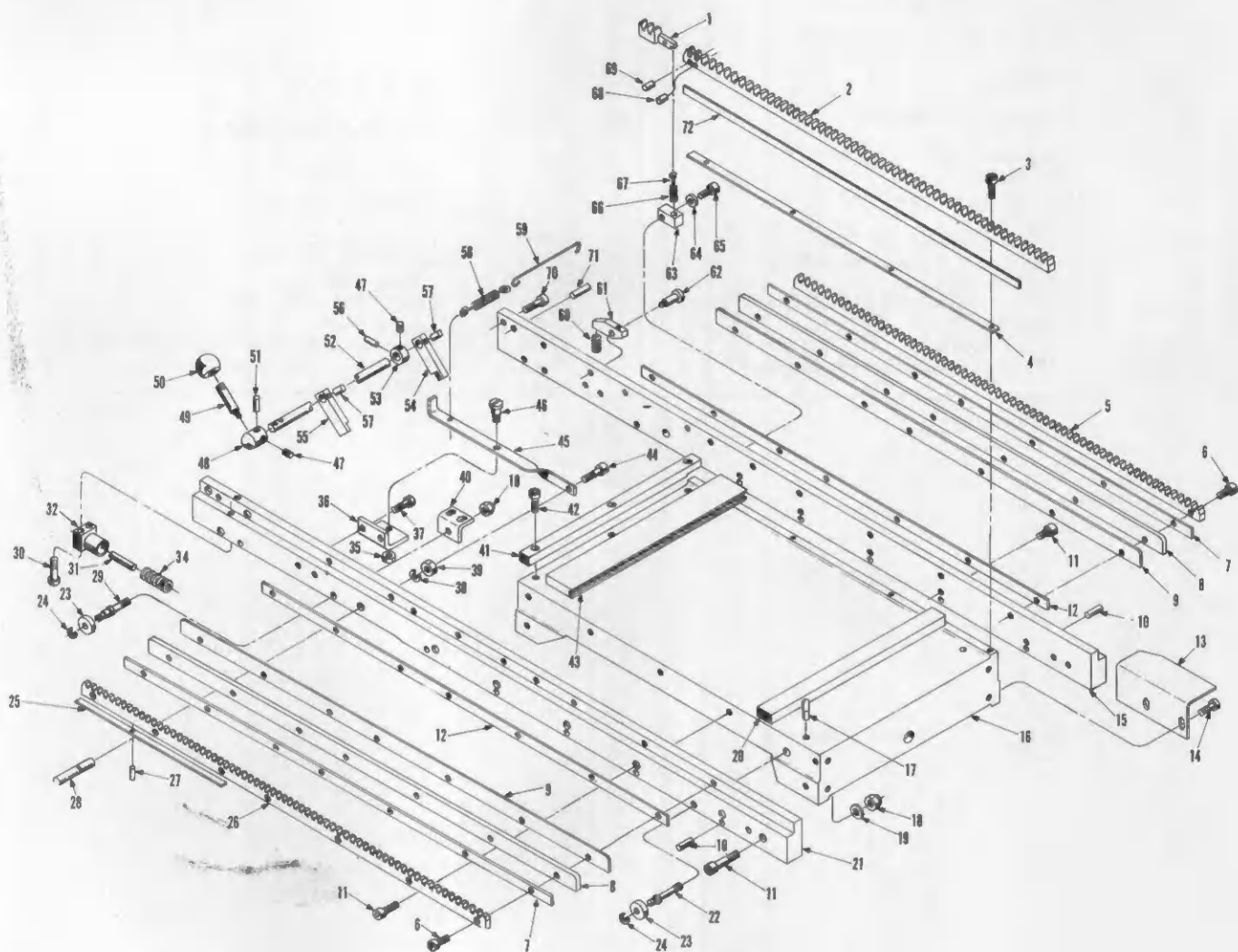


Figure 6

**Always Give SERIAL NUMBER When Writing** **When Ordering Parts Give PART NUMBER**

Ref. No.	Part Number	PART NAME	Quan.	Ref. No.	Part Number	PART NAME	Quan.
1	2360	Starting Teeth	1	37	404-6914	1/4 - 28 x 1/2 Hex. Hd. Cap Screw	4
2	A-2358	Rack Assy (Ink Drive)	1	38	S-1517-50	Retaining Ring - 1/2 Inverted	2
3	102414-6921	#10 - 28 x 7/8 Fill. Hd. Mach. Screw	4	39	4-6428	1/4 - 28 Hex. Jam Nut	2
4	2424	Shim (Ink Drive)	U.A.R.	*40	2589	Bracket (Inker)	2
5	2356	Rack (Rear)	1	41	2364	Stop Register Bar	1
6	406-6915	1/4 - 28 x 3/4 Soc. Hd. Cap Screw	14	42	506-6911	5/16 - 18 x 3/4 Fill. Hd. Cap Screw	3
7	2419	Shim (Drive Rack)	U.A.R.	43	2414	Head Register Bar	1
8	2354	Spacer (Drive Rack)		44	408-6920	1/4 - 28 x 1 Butt. Hd. Soc. Cap Screw	2
9	2353	Keeper (Cylinder)	2	45	2369	Trip Release Lever	2
10	514-5246	5/16 x 1 1/4 Dowel Pin	4	46	2370	Shoulder Screw	2
11	512-6918	5/16 x 1 1/2 Soc. Hd. Cap Screw	14	47	404-6938	1/4 - 20 x 1/4 Soc. Set Screw - Cup Pt.	1
12	2418	Shim (Keeper)	U.A.R.	48	2374	End Collar	1
13	2352	Gripper (Release Com.)	1	49	2375	Handle Stud	1
14	406-6920	1/4 - 28 x 3/4 Button Hd. Soc. Cap Screw	2	50	15G-D850	Handle (Trip lever)	1
15	2316	Rail (Back)	1	51	308-5246	3/16 x 1 Dowel	1
16	2313	Bed (Type high .918)	1	52	2373	Shaft (Trip Release)	1
	2314	Bed (Galley Height .968)	1	53	2376	Collar	1
17	2416	Stop Pin	2	54	2378	Cam (Back Trip Release)	1
18	6-5247	Lock Nut 3/8 - 16	4	55	2377	Cam (Front Trip Release)	1
19	6-7321	Washer Std 1/4	4	56	305-5246	3/16 dia. x 5/8 Dowel Pin	1
20	2415	Foot Lock up Bar	1	57	21S-187-0875	3/16 x 7/8 Set-lok Pin	2
21	2315	Front Rail	1	58	2380	Spring (Trip Release)	1
22	2387	Eccentric Trip	2	59	2379	Spring Extension	1
23	S-1627	Roller Trip	4	60	2366	Spring (Carriage Latch)	1
24	S-1193-37	Retaining Ring	4	61	2365	Carriage Latch	1
25	2417	Shim (Drive Rack)	U.A.R.	62	2367	Shoulder Screw	1
26	2355	Rack (Drive Front)	1	63	2361	Spring Retainer	1
27	S-586	.156 Dia. Straight Pin	2	64	8-7327	1/4 Med. Lock Washer	1
28	2371	Pin (Trip Release)	2	65	408-6914	1/4 - 28 x 1 Hex. Hd. Cap Screw	1
29	2389	Eccentric	2	66	2362	Spring (Starting Teeth)	1
30	412-6915	1/4 - 28 x 1 1/2 Soc. Hd. Cap. Scr.	4	67	2363	Spring Pin	1
31	S-395-1	3/8 x 2 1/4 Pin	2	68	S-779	1/8 Dia. x 1/2 Straight Pin	1
32	A-2382	Spring Retainer Assem. - Weld	2	69	S-463-D	3/16 Dia. x 1/2 Straight Pin	1
34	2385	Spring - Bumper	2	70	506-6918	5/16 - 18 x 3/4 Soc. Hd. Cap Screw	4
35	4-6424	Jam Nut 1/4 - 20	4	71	510-5246	5/16 x 1 1/4 Dowel Pin	2
36	2368	Bracket Trip lever	2	72	2357	Spacer	1

\* Used on MP only

**NOTES**

